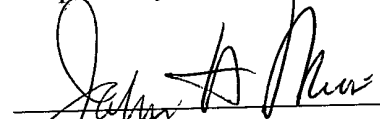


REMARKS

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,


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Date: January 15, 2002

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APPENDIXVERSION WITH MARKINGS TO SHOW CHANGES MADEIN THE CLAIMS:

The claims are amended as follows:

5. (Amended) Sensor system according to claim 3 ~~or~~ 4, characterised in that the enzyme is a DNA strand transferase, such as a transferase at end 3', or an RNA strand polymerase.
6. (Amended) Sensor system according to claim 3 ~~or~~ 4, characterised in that the biological entity is a peptide or a protein and in that the enzyme is a peptidyl synthetase.
8. (Amended) Sensor system according to ~~any of~~ claims 1 ~~to~~ 5, characterised in that the monomer compounds are selected from among nucleotides and oligonucleotides.
9. (Amended) Sensor system according to ~~any of~~ claims 1 ~~to~~ 8, characterised in that the sensor surface has a waveguide or waveguide gradient arrangement allowing optical detection of the refractive index variation, linked to the variation in mass at the sensor surface, this refractive index variation being able to be correlated with the analysis of the biochemical entity.
10. (Amended) Sensor system according to ~~any of~~ claims 1 ~~to~~ 9, characterised in that the monomer compounds are labelled with a chromophore or a fluorophore allowing an absorption or fluorescence measurement to be made which can be correlated with the analysis of the biochemical entity.
11. (Amended) Sensor system according to ~~any of~~ claims 1 ~~to~~ 10, characterised in that the sequence of nucleotides forming the detection unit is directly linked to the surface of the sensor by a covalent link.

12. (Amended) Sensor system according to ~~any of claims 1 to 11~~, characterised in that the detection unit is linked in a one-directional manner by its end 3' or 5'.

13. (Amended) Sensor system according to ~~any of claims 1 to 12~~, characterised in that the nucleotide sequence forming the detection unit is linked to the surface of the sensor by photo-immobilisation.

14. (Amended) Sensor system according to ~~any of claims 1 to 13~~, characterised in that the nucleotide sequence forming the detection unit is indirectly linked to the sensor surface by a bi-functional scaffold, which is itself linked to said surface by a docking unit.

15. (Amended) Sensor system according to ~~any of claims 1 to 14~~, characterised in that the compounds allowing the scaffold to be formed are selected from among, a bi-functional molecular entity, such as a hetero-bi-functional cross linking agent, an antibody modified by a nucleotide or one of its fragments, DNA dendrimers of suitable size, and metal or semiconductor nanocrystalline compound colloids.

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